

Androscoggin Valley Regional Refuse Disposal District  
Attn: Mr. Ray Chagnon, Chairman  
15 Mt. Florist Street  
Berlin, NH 03570

## **WATER QUALITY CERTIFICATION**

In Fulfillment of

### **Section 401 of the United States Clean Water Act (33 U.S.C 1341)**

401 Certification No. 2006-004

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<b>Activity Name</b>	Phase III Expansion – Wetlands Removal and Compensation Project
<b>Activity Location</b>	Success, New Hampshire
<b>Affected Surface Waters</b>	Cascade Alpine Brook, Bean Brook; unnamed wetlands
<b>Owner/Applicant</b>	Androscoggin Valley Regional Refuse Disposal District 15 Mt. Florist Street Berlin, NH 03570
<b>Appurtenant Permit(s):</b>	U.S. Army Corps of Engineers File No. NAE 2006586 DES Wetlands Bureau Permit No. ____ DES Alteration of Terrain Permit No. WPS-7428 DES Groundwater Release Detection Permit No. GWP-198706016-S-003
<b>DATE OF APPROVAL</b> (subject to Conditions below)	____ __, 2006

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### **A. INTRODUCTION**

Androscoggin Valley Regional Refuse Disposal District (AVRRDD) ("Applicant") owns and operates the Mt. Carberry Secure Landfill ("Landfill") in Success, New Hampshire. The Applicant proposes to excavate 12.8 acres of wetlands and subsequently fill the excavated area with common borrow (Phase III). The excavated wetlands will be used to create and enhance 4.7 acres of wetlands at Bean Brook Pit. In addition, 12 acres of wooded upland buffer will be created at Bean Brook Pit. The Landfill, in its existing configuration, has been projected to attain full capacity by 2023 based on its current landfilling rate of 305,000 cubic yards per year. The proposed work will provide an estimated 10.5 million cubic yards of disposal capacity beyond the existing capacity, which is expected to meet future solid waste needs.

This 401 Water Quality Certification ("Certification") applies to the Activity described in C-22 of this 401 Certification. Surface waters affected by the Activity include Cascade Alpine Brook, Bean Brook, and unnamed wetlands. This 401 Certification documents laws and regulations, determinations, and 401 Certification conditions relative to the attainment/maintenance of NH surface water quality standards including NH RSA 485-A:8 II, and NH Code of Administrative Rules Env-Ws 1700.

## **B. WATER QUALITY CERTIFICATION APPROVAL**

Based on the findings and conditions noted below, the New Hampshire Department of Environmental Services ("DES") has determined that any discharge associated with the Activity will not violate surface water quality standards, or cause additional degradation in surface waters not presently meeting water quality standards. DES hereby issues this 401 Certification subject to the conditions defined in Section E of this 401 Certification, in accordance with Section 401 of the United States Clean Water Act (33 U.S.C. 1341).

## **C. STATEMENT OF FACTS AND LAW**

- C-1. Section 401 of the United States Clean Water Act (33 U.S.C. 1341) states, in part: "Any applicant for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate...that any such discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of this title....No license or permit shall be granted until the certification required by this section has been obtained or has been waived...No license or permit shall be granted if certification has been denied by the State..."
- C-2. Section 401 further states, in part "Any certification provided under this section shall set forth any effluent limitations and other limitations, and monitoring requirements necessary to assure that any applicant for a Federal license or permit will comply with any applicable effluent limitations and other limitations...and shall become a condition on any Federal license or permit subject to the provisions of this section."
- C-3. RSA 485-A:8 and Env-Ws 1700 (Surface Water Quality Regulations, effective December 3, 1999) together fulfill the requirements of Section 303 of the Clean Water Act that the State of New Hampshire adopt water quality standards consistent with the provisions of the Act.
- C-4. Env-Ws 1701.02, entitled "Applicability", states that:
  - "(a) These rules shall apply to all surface waters.
  - "(b) These rules shall apply to any person who causes point or nonpoint source discharge(s) of pollutants to surface waters, or who undertakes hydrologic modifications, such as dam construction or water withdrawals, or who

undertakes any other activity that affects the beneficial uses or the level of water quality of surface waters.”

C-5. Env-Ws 1702.18 defines a discharge as:

“a. The addition, introduction, leaking, spilling, or emitting of a pollutant to surface waters, either directly or indirectly through the groundwater, whether done intentionally, unintentionally, negligently, or otherwise; or

“b. The placing of a pollutant in a location where the pollutant is likely to enter surface waters.”

C-6. Env-Ws 1702.39 defines a pollutant as: “pollutant” as defined in 40 CFR 122.2. This means “dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.”

C-7. Env-Ws 1702.46 defines surface waters as “perennial and seasonal streams, lakes, ponds and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses and other bodies of water, natural or artificial,” and waters of the United States as defined in 40 CFR 122.2.”

C-8. Surface waters are navigable waters for the purposes of certification under Section 401 of the Clean Water Act. Surface waters are jurisdictional wetlands for the purposes of wetlands permitting under RSA 482-A.

C-9. Env-Ws 1703.03(c)(1) states that “All surface water shall be free from substances in kind or quantity which:

“a. Settle to form harmful deposits;

“b. Float as foam, debris, scum or other visible substances;

“c. Produce odor, color, taste or turbidity which is not naturally occurring and would render it unsuitable for its designated uses;

“d. Result in the dominance of nuisance species; or

“e. Interfere with recreational activities.”

C-10. Env-Ws 1703.19, entitled “Biological and Aquatic Community Integrity”, states that

“a. The surface waters shall support and maintain a balanced, integrated and adaptive community of organisms having a species composition, diversity, and

functional organization comparable to that of similar natural habitats of a region; and

"b. Differences from naturally occurring conditions shall be limited to non-detrimental differences in community structure and function."

- C-11. Env-Ws 1703.21 (a)(1) states that "Unless naturally occurring or allowed under part Env-Ws 1707, all surface waters shall be free from toxic substances or chemical constituents in concentrations or combinations that injure or are inimical to plants, animals, humans or aquatic life."
- C-12. Env-Ws 1703.07 through Env-Ws 1703.11 contains standards relative to dissolved oxygen, bacteria, benthic deposits, oil and grease, and turbidity.
- C-13. RSA 485-A:8,I, relative to Class A waterbodies, states "There shall be no new discharge of any sewage or wastes into waters of this classification."
- C-14. RSA 485-A:2,VI defines "Industrial waste" as any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from development of any natural resources.
- C-15. RSA 485-A:2,VIII defines "Other wastes" as garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals and other substances other than sewage or industrial wastes, and any other substance harmful to human, animal, fish or aquatic life.
- C-16. RSA 485-A:2, X defines "Sewage" as the water-carried waste products from buildings, public or private, together with such groundwater infiltration and surface water as may be present.
- C-17. RSA 485-A:2, XVI defines "Waste" as industrial waste and other wastes.
- C-18. DES prepared a Policy dated July 9, 2004 entitled "Interpretation of statutory definitions of waste as applied to "no discharge" provisions of the water quality standards" that interprets the definition of wastes as applied to Class A waterbodies under RSA 485-A:8,I.
- C-19. The methodology used by DES for determining surface water quality standards attainment or impairment is described in the document entitled *2006 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology, November 2005, NH Department of Environmental Services, document number NHDES-R-WD-05-29*. This document, commonly referred as the CALM, also includes a complete list of designated uses applicable to NH surface waters.
- C-20. The Activity reviewed for this 401 Certification requires a federal wetlands permit under the federal Clean Water Act Section 404. The U.S. Army Corps of Engineers (USACE) provided public notice for the Activity on March 10, 2006.
- C-21. The Applicant is responsible for the Activity, which includes construction and operation.

- C-22. The Applicant submitted an application for 401 Certification under letter dated April 27, 2006, which was received by DES on May 1, 2006. In the federal wetlands permit application, which is a component of the 401 Certification application, the Applicant identified "Expansion to the East" as the preferred alternative among four other evaluated alternatives. The Activity reviewed for this 401 Certification is "Expansion to the East", which is referred as Phase III. Phase III will be conducted in "stages". Each "stage" will be designed to operate for approximately one year based on estimated waste generation volumes. Overall, Phase III includes wetlands excavation and alteration, surface hydrologic alteration, landfill liner installation, waste disposal and containment, and access road construction and usage.
- C-23. DES Wetlands Bureau is currently processing a Wetlands and Non-Site Specific permit application for Phase III by the Applicant for alterations or impacts to jurisdictional wetlands associated with the Activity, including the construction area adjacent to the existing Landfill and the mitigation area in Bean Brook Pit.
- C-24. DES Alteration of Terrain ("AoT") Program issued AoT Permit No. WPS-7428 on March 28, 2006 to address the alterations or impacts to surface hydrology associated with the first "stage" of Phase III, which consists of the excavation of the wetlands. The permit was not intended to address subsequent "stages".
- C-25. DES Waste Management Division regulates the Landfill, including construction and operation, through Groundwater Release Detection Permit No. GWP-198706016-S-003.
- C-26. The Applicant monitored the water quality of Cascade Alpine Brook upstream and downstream from the existing Landfill, pursuant to the requirements of DES Groundwater Release Detection Permit No. GWP-198706016-S-003. Monitoring was conducted one to three times per year from September 1987 through November 2005. The Applicant monitored and currently monitors the following parameters: antimony, arsenic, barium, beryllium, cadmium, chromium, iron, lead, magnesium, manganese, potassium, selenium, silver, sodium, thallium, mercury, total kjeldahl nitrogen, nitrate, sulfate, chemical oxygen demand, chloride, and Volatile Organic Aromatics (VOAs). According to NH surface water quality regulations in Env-Ws 1700, water quality criteria for some of the above metals are dependent on the hardness of the surface water.
- C-27. DES maintains an Environmental Monitoring Database or EMD for all environmental data collected and received by DES. The EMD is accessible to the public on the World Wide Web and is designed to accept data from sources outside of DES.

#### **D. FINDINGS**

- D-1. The Activity will result in a discharge and may cause the permanent alteration of or temporary impacts to surface waters.

- D-2. Storm water runoff, including snowmelt, and groundwater flow to surface waters from within the area affected by the Activity during warm and cold-weather conditions are discharges under the definitions of Env-Ws 1702.18.
- D-3. The Activity requires water quality certification under Section 401 of the federal Clean Water Act.
- D-4. The Activity will temporarily and permanently alter or impact wetlands under the jurisdiction of DES. The 401 Certification decision relies, in part, on an approved permit from the DES Wetlands Bureau for the potential construction-related impacts to jurisdictional wetlands, including the wetland mitigation area at Bean Brook Pit. Through its processing and anticipated issuance, the DES wetlands permit will address the impacts to jurisdictional wetlands.
- D-5. The Activity will temporarily and permanently alter or impact surface hydrology, under the jurisdiction of DES. The 401 Certification decision relies, in part, on an approved permit from the DES AoT Program for the potential construction and operation-related impacts, such as peak runoff, associated with the Activity. Through its issuance, DES AoT permit No. WPS-7428 addressed the impacts of the first "stage" of Phase III to surface hydrology. Subsequent AoT permit applications will be filed by the Applicant to address subsequent "stages" of Phase III. Through subsequent issuances, the DES AoT permits will address the impacts of subsequent "stages" of Phase III to surface hydrology.
- D-6. The Activity will generate leachate and stormwater runoff, which are regulated by the DES Waste Management Division under Env-Sw 400 through Env-Sw 2000.
  - a. Leachate is defined under Env-Sw 103.34 as a liquid, including any suspended components in the liquid, which has contacted or passed through solid waste. The collection and handling of leachate is regulated under Env-Sw 805.06, which states that leachate collection and removal systems shall be required at all lined landfills, to collect and remove leachate contained within each liner system in conformance with Env-Sw 806.05.
  - b. Stormwater runoff from the Activity is regulated under Env-Sw 805.09. Env-Sw 805.09(a)(1) states that all landfills shall include a stormwater management system to divert run-on around or away from the facility. The Applicant, in its 401 Certification application, provided a stormwater management plan.
- D-7. DES Groundwater Release Detection Permit No. GWP-198706016-S-003 does not include monitoring wells downgradient of the proposed Phase III. Thus, GWP-198706016-S-003 will require amendment or re-issuance through DES Waste Management Division. Amendment or re-issuance typically occurs after final landfill design and prior to the reception and disposal of waste in the landfill. DES Groundwater Release Detection Permit No. GWP-198706016-S-003, its re-issuance, and any amendments, will address leachate and stormwater runoff from the Activity.

- D-8. The Activity includes construction practices that can disturb and expose terrain. The disturbance and exposure of terrain, particularly during wet weather events, can mobilize and transport sediments in surface waters within and down-gradient from Activity boundary. Sediments transported during wet-weather events may remain suspended in the water column or settle to form benthic deposits in waterbodies adjacent to or downstream from the Activity boundary. The Applicant proposed erosion control for the Activity through the installation and maintenance of BMPs such as stone filter berms, diversion ditches, and detention basins. The BMPs were described in the Stormwater Management Plan dated March 13, 2006.
- D-9. Bean Brook and its tributaries are Class A surface waters under RSA 485-A:8; Cascade Alpine Brook, the unnamed wetlands, and their tributaries are Class B surface waters. Therefore, Class A and Class B New Hampshire surface water quality standards apply to this Activity. Class A and B waterways are considered suitable for fishing, swimming, and, after adequate treatment, as a water supply.
- D-10. According to DES Policy described in C-18, the intent of 485-A:8,I, relative to Class A waterbodies (i.e., "There shall be no new discharge of any sewage or wastes into waters of this classification") is to prevent the direct discharge of wastes (i.e., discharges from wastewater treatment facilities), and not the discharge of any runoff, groundwater, or surface water that may contain some constituents derived from wastes. Consequently, since stormwater is not a direct discharge of waste, stormwater is not considered a discharge of sewage or waste, and is therefore allowed in watersheds of Class A waterbodies provided Class A water quality standards are attained.
- D-11. Proper installation and maintenance of BMPs described in the Applicant's stormwater management plan dated March 13, 2006 are necessary to maximize the effectiveness of BMPs. Improper installation or failure of the proposed BMPs may cause discharge of pollutants to surface waters, which may cause violations of surface water quality standards.
- D-12. DES reviewed the water quality data described in C-26 of this 401 Certification. The data indicated that, in 2003 and 2004, Cascade Alpine Brook upstream and downstream from the Activity area (assessment unit ID no. NHRIV400010606-03) did not attain Class B NH surface water quality standards for pH. Thus, Cascade Alpine Brook will likely be included as a Category 5 waterbody on the DES 303(d) list of impaired waters to be published by DES in 2008. The list does not specify the source of the impairment. A Total Maximum Daily Load (TMDL) study is required for all Category 5 waterbodies.
- D-13. The Activity is not expected to cause or contribute to violation of surface water quality standards provided the Activity is conducted in accordance with the conditions in Section E of this 401 Certification, including compliance with DES Wetlands and Non-Site Specific Permit No. \_\_\_\_, DES AoT Permit No. WPS-7428, DES AoT permits issued for subsequent "stages", and DES Groundwater Release

Detection Permit No. GWP-198706016-S-003, including any amendments or re-issuance.

- D-14. Monitoring is necessary for surface waters affected by the Activity during both the construction and operation periods to evaluate water quality affected by the Activity relative to surface water quality standards. According to the DES assessment methodology referenced in C-19 of this 401 Certification, assessments for primary and secondary contact recreation uses require data for *Escherichia coli* bacteria and assessments for aquatic life use support require biological assessments based on benthic macroinvertebrates for streams of 4th order or less. If biomonitoring is not possible, then dissolved oxygen and pH measurements are necessary.

#### **E. WATER QUALITY CERTIFICATION CONDITIONS**

- E-1. The Activity shall not cause or contribute to a violation of surface water quality standards. If DES determines that surface water quality standards are being violated, DES may modify this 401 Certification to include additional conditions to ensure compliance with surface water quality standards, when authorized by law, and after notice and opportunity for hearing.
- E-2. The Applicant shall allow DES to inspect the Activity at any time to monitor compliance with the conditions of this 401 Certification.
- E-3. The Applicant shall consult with DES regarding any proposed modifications to the Activity, including construction or operation, which may result in a change in discharge to surface water, to determine whether this 401 Certification requires amendment.
- E-4. The Applicant shall contain and/or treat, as necessary, any discharges to Cascade Alpine Brook, Bean Brook, or other surface waters of the state that originate or originated from the Activity, such that the discharge(s) will not cause any violations of NH surface water quality standards. Treatment of discharges includes, but is not limited to, installation and maintenance of BMPs such as detention basins.
- E-5. The Applicant shall install and ensure proper functionality of erosion control measures prior to soil excavation activities in the Activity area, as referenced in the stormwater management plan dated March 13, 2006.
- E-6. The Applicant acknowledges that Total Maximum Daily Load (TMDL) studies may be conducted for any pollutant found to cause impairment in any surface water impacted by the Activity. The Applicant further acknowledges its responsibility for the implementation of additional measures to reduce pollutant loadings in accordance with any approved TMDL. If requested by DES, the Applicant agrees to assist DES with the development of any such TMDLs, including but not limited to, assistance with monitoring to facilitate development of the TMDLs.



- E-7. If, at any time, monitoring conducted for this Activity indicates violations of State surface water quality standards, the Applicant shall conduct a pollutant loading analysis and implement additional BMPs as necessary to ensure that loadings of the pollutant(s) causing impairment do not increase beyond conditions present as of the date of issuance of this 401 Certification, and preferably are reduced. Unless otherwise directed by DES, the pollutant loading analysis and recommendations for BMPs shall be submitted to DES for approval prior to construction of any BMPs and no more than 180 days from the date that sampling indicated violation(s) of State surface water quality standards.
- E-8. The Applicant shall comply with the conditions of DES Wetlands Bureau Permit No. \_\_\_\_ upon its issuance, including any amendments and shall comply with DES wetlands rules and regulations. The conditions shall become conditions of this 401 Certification upon issuance of this 401 Certification.
- E-9. The Applicant shall comply with the conditions of DES AoT Permit No. WPS-7428, including any amendments and shall comply with DES AoT rules and regulations. The Applicant shall comply with any conditions of future DES AoT permits issued for subsequent "stages" of Phase III. The conditions shall become conditions of this 401 Certification upon issuance of this 401 Certification.
- E-10. The Applicant shall comply with DES solid waste rules and regulations and DES Groundwater Release Detection Permit No. GWP-198706016-S-003, including any amendments, re-issuance, and any provisions for surface water monitoring. Any conditions of GWP-198706016-S-003, including those amended or re-issued, shall become conditions of this 401 Certification upon issuance of this 401 Certification. The Applicant shall submit a copy of any surface water monitoring plan associated with amendment or re-issuance of GWP-198706016-S-003 relative to Phase III to the DES Watershed Management Bureau for review and approval. In addition to the parameters currently monitored, hardness shall be monitored to facilitate comparison of results to hardness-dependent water quality criterion.
- E-11. Unless otherwise allowed by DES, and to facilitate assessment of primary and secondary contact recreation and aquatic life use support (see D-14 of this 401 Certification), the Applicant shall submit a water quality monitoring plan to the DES Watershed Management Bureau for review and approval that includes pre- and post-operation monitoring for *Escherichia coli* and biomonitoring. The monitoring plan shall be submitted at least one-year prior to the operation (i.e., disposal of trash) of any portion of Phase III. If biomonitoring is not possible, the Applicant shall monitor dissolved oxygen and pH. The monitoring plan shall include appropriate water sample collection and analysis methods to ensure that the results can be compared to NH surface water quality standards.
- E-12. The Applicant shall input all surface water quality data for the Activity into the DES EMD referred in C-27 of this 401 Certification. Beginning in 2008, by January 1 of each year all new data collected in the previous year shall be input into the EMD. All surface water quality data collected at the Landfill prior to the

date of issuance of this 401 Certification shall be input into the EMD by January 1, 2008.

#### **F. APPEAL**

If you are aggrieved by this decision, you may appeal the decision to the Water Council. Any appeal must be filed within 30 days of the date of this decision, and must conform to the requirements of Env-WC 200. Inquires regarding appeal procedures should be directed to Michael Sclafani, DES Council Appeals Clerk, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095; telephone 603-271-6072.

If you have questions regarding this 401 Certification, please contact Paul Piszczek at (603) 271-2471.

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Harry T. Stewart, P.E.  
Director, Water Division

cc:

Ridge Mauck, DES Alteration of Terrain Program  
Paul Piszczek, DES Watershed Management Bureau  
Craig Rennie, DES Wetlands Bureau  
Michael Sills, DES Waste Management Division  
Richard Roach, ACOE  
Sharon Gauthier, AVVRDD  
Guy Cote, Jr., Sevee & Maher  
Berlin Planning Board